WHAT IS CLAIMED IS:

1. An electronically commutated brushless motor comprising:

a motor housing;

a bearing end cap coupled to said motor housing adapted to couple said motor to an implement of a motor driven product; and

a double insulated rotor and stator assembly annularly fitted in said housing.

2. The motor of Claim 1, wherein said double insulated rotor and stator assembly comprises a stator assembly configured to provide a first layer of electrical insulation.

3. The motor of Claim 2, wherein said stator assembly comprises:

a stator stack comprising a stack of steel laminations comprising a plurality of stator slots;

a plurality of windings wound in said stator slots, said windings configured to generate a revolving magnetic field; and

non-conductive electrically insulating material disposed into said stator slots around said windings in said stator slots, said insulating material

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configured to provide electrical insulation between said stator stack and said windings.

3 4. The motor of Claim 2 3, wherein said insulating material comprises:

a plurality of first strips of insulating material inserted into said stator slots before said windings are inserted in said stator slots; and

a plurality of second strips of insulating material inserted into a mouth of said stator slots after said windings are inserted in said stator slots.

5. The motor of Claim 1, wherein said double insulated rotor and stator assembly comprises a rotor assembly configured to provide a second layer of electrical insulation.

6. The motor of Claim 5, wherein said rotor assembly comprises:

a shaft configured to deliver torque to said implement;

a rotor stack coupled to said shaft comprising a stack of steel laminations configured to rotate in a revolving magnetic field and thereby deliver torque to said shaft; and

an insulating tube comprising a non-conductive electrically insulating material covering said shaft between said shaft and said rotor stack,

said insulating material adapted to provide electrical insulation between said rotor stack and said shaft secured thereto.

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7. The motor of Claim 6, wherein said insulating material comprises a fiberglass tube.

5 ~~8.~~ The motor of Claim 1, wherein said motor housing is constructed of a non-conductive material.

6 ~~9.~~ The motor of Claim 1, wherein said stator assembly is installed into said motor housing using a non-conductive intermediate device.

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10. A method for providing protection against electrical shock when a user comes into contact with accessible metal of a motor driven product coupled to an electronically commutated brushless motor, the motor including a motor housing, a rotor assembly and a stator assembly annularly fitted in the housing, said method comprising:

providing a first layer of insulation in the stator assembly; and

providing a second layer of insulation in the rotor assembly.

8 ~~11.~~ The method of Claim ~~10~~ 7, wherein providing a first layer of insulation comprises:

providing a stator stack including a plurality of stator slots;

providing a plurality of stator windings for generating a revolving magnetic field, the stator windings being wound in the stator slots; and

using electrical insulation between the stator stack and the stator windings.

9 ~~12.~~ The method of Claim ~~11~~ 8, wherein using electrical insulation comprises:

providing a plurality of first insulating strips formed in the shape of the stator slots and inserted into the stator slots before the stator windings are

wound in the stator slots, the insulating strips being constructed of a non-conductive electrically insulating material; and

providing a plurality of second insulating strips inserted into a mouth of the stator slots after the windings are inserted in the stator slots, the insulating strips being constructed of a non-conductive electrically insulating material.

10 ~~13~~. The method of Claim ~~12~~ 9, wherein providing a plurality of first insulating strips comprises providing first insulating strips that extend at either end of the stator stack, and wherein providing a plurality of second insulating strips comprises providing second insulating strips that extend at either end of the stator stack.

14. The method of Claim 10, wherein providing a second layer of insulation comprises:

providing a shaft for transferring torque to a gearbox of the motor driven product;

providing a rotor stack connected to the shaft for rotating in a magnetic field, thereby delivering torque to the shaft; and

using electrical insulation between the rotor stack and the shaft.

15. The method of Claim 14, wherein providing electrical insulation comprises providing an insulating tube pressed onto the shaft, the

insulating tube being constructed of a non-conductive, electrically insulating material.

16. The method of Claim 15, wherein providing an insulating tube comprises providing a fiberglass insulating tube.

12 ~~17~~. The method of Claim 7 ~~10~~ further comprises providing a supplemental layer of insulation, the supplemental layer of insulation including said motor housing being constructed of a non-conductive material.

13 ~~18~~. The method of Claim 7 ~~10~~ further comprises providing a supplemental layer of insulation, the supplemental layer of insulation including said stator assembly being installed into said motor housing using a non-conductive intermediate device.

19. An electronically commutated brushless motor configured to be coupled to an implement of a motor driven product, said motor comprising:

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a stator stack comprising a stack of steel laminations including a plurality of stator slots;

a plurality of windings wound in said stator slots, said windings configured to generate a revolving magnetic field;

a first layer of electrical insulation between current carrying components of said motor and accessible metal of said motor, said first layer comprising a non-conductive electrically insulating material disposed into said stator slots around said windings in said stator slots;

a shaft configured to deliver torque to said implement;

a rotor stack comprising a stack of steel laminations configured to rotate in said revolving magnetic field and thereby deliver torque to said shaft; and

a second layer of electrical insulation between current carrying components of said motor and accessible metal of said motor, said second layer comprising a non-conductive electrically insulating tube pressed onto said shaft between said shaft and said rotor stack.

14 15 20. The motor of Claim ~~19~~, wherein said non-conductive electrically insulating material of said first layer comprises:

a plurality of first strips of insulating material inserted into said stator slots before said windings are inserted in said stator slots; and

a plurality of second strips of insulating material inserted into a mouth of said stator slots after said windings are inserted in said stator slots.